

REMARKS

Claims 1 and 15 are amended and Claim 16 is cancelled. Claims 1-15 and 17-20, as amended, remain in the application. No new matter is added by the amendments to the claims.

The Rejections:

In the Office Action dated March 7, 2006 the Examiner rejected Claims 1, 4, 9, and 10 under 35 U.S.C. 103(a) as being unpatentable over Nakai et al. U.S. Patent No. 5105109 in view of Yuichiro et al. JP Publication No. 2000-255941.

Regarding Claim 1, the Examiner stated that Nakai discloses an elevator counterweight 3 for connection to an elevator car 4 by flexible support means, referred to as ropes 6, and movable along counterweight guide rails 8 comprising a counterweight frame, referred to as casing frame 17, adapted to be connected to the flexible support means 6 and moved along the counterweight guide rails 8, a plurality of weight elements, referred to as counterweights 2, fixed in the frame 17, upper and lower guide shoes, not numbered but shown in Figure 1, attached to the frame 17 and adapted to engage the counterweight guide rails 8; and the frame 17 including four vertical beams, not numbered but shown in Figures 1 and 7, spaced over a width of the frame 17 and three horizontal crossbars, not numbered but shown in Figures 1 and 7, attached to the vertical beams, the beams and the crossbars forming two grid fields adapted to receive the weight elements 2 with the weight elements 2 being fixed in the grid fields. The Examiner admitted that Nakai is silent concerning the beams and said crossbars forming at least four grid fields adapted to receive the weight elements, but stated that Yuichiro teaches a balance weight divided in the vertical direction by a crossbar, referred to as partition plate 19, creating a first subweight 22 and a second subweight 20 and it would have been obvious to one of ordinary skill in the art at the time of the invention to divide each of the two grid fields disclosed by Nakai by a partition plate, a first subweight, and a second subweight as taught by Yuichiro thus creating four grid fields adapted to receive the

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weight elements to provide a means to adjust the weight of the counterweight to rescue passengers in a car stopping at the top of a hoist way in an elevator.

Regarding Claim 4, the Examiner stated that Nakai discloses the beams and the crossbars are arranged in a common plane, shown in Figures 1 and 7.

Regarding Claim 9, the Examiner stated that Nakai discloses the beams prevent horizontal movement of the weight elements 2 in the grids.

Regarding Claim 10, the Examiner stated that Nakai discloses the weight elements 2 are formed as rectangular blocks.

The Examiner rejected Claims 2 and 3 under 35 U.S.C. 103(a) as being unpatentable over Nakai in view of Yuichiro, and further in view of Yoo et al. U.S. Patent No. 5080201.

Regarding Claim 2, the Examiner stated that Nakai discloses a first one of the crossbars terminates the frame 17 at a top, a second one of the crossbars terminates the frame 17 at a bottom and a third one of the crossbars is arranged between the first and second crossbars, each outermost one of the beams extending only from the first crossbar to the third crossbar so that a lower left-hand one of the grids and a lower right-hand one of the grids are open at a respective left-hand side and right-hand side, shown in Figures 1 and 7. The Examiner admitted that Nakai is silent concerning the lower guide shoes being mounted in the lower left-hand grid and the lower right-hand grid, but stated that Yoo teaches lower guide shoes, referred to as guide roller sets 10, being mounted in a lower left-hand grid and a lower right-hand grid, shown in Figures 1 and 2 and it would have been obvious to one of ordinary skill in the art at the time of the invention to mount guide rollers disclosed by Nakai in a lower left-hand grid and a lower right-hand grid as taught by Yoo to facilitate airflow around the counterweight.

Regarding Claim 3, the Examiner stated that Nakai discloses a third crossbar fastened to the beams in a selected one of two vertically spaced positions to determine a height of the lower left-hand grid and the lower right-hand grid, shown in Figures 1 and 7.

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The Examiner rejected Claim 5 under 35 U.S.C. 103(a) as being unpatentable over Nakai in view of Yuichiro, and further in view of Gruber et al. U.S. Patent No. 6105798. The Examiner admitted that Nakai is silent concerning beams penetrate the crossbars and are connected with the crossbars at penetration locations, but stated that Gruber teaches beams 26, 28 penetrate the crossbars 30 and are connected with the crossbars at penetration locations 30 and it would have been obvious to one of the ordinary skill in the art at the time of the invention to make the beams taught by **Nakanishi** penetrate crossbars and connect with the crossbars at penetration locations taught by Gruber to evenly distribute the load onto the crossbars and facilitate a secure connection between beams and crossbars.

The Examiner rejected Claims 6 and 11 under 35 U.S.C. 103(a) as being unpatentable over Nakai in view of Yuichiro, and further in view of Gagnon et al. U.S. Patent No. 5086881.

Regarding Claim 6, the Examiner admitted that Nakai is silent concerning beams formed with profile members having a U-shaped cross-section, but stated that Gagnon teaches beams formed with profile members having a U-shaped cross-section and it would have been obvious to one of the ordinary skill in the art at the time of the invention to manufacture the beams disclosed by **Nakanishi** with a U-shaped cross-section taught by Gagnon to securely fix weight elements between the beams.

Regarding Claim 11, the Examiner admitted that Nakai is silent concerning the beams are spaced to define a first width for a first portion of said grid fields and a second width different from the first width for at least a second portion of the grid fields, but stated that Gagnon teaches beams spaced to define a first width for a first portion of grid fields and a second width different from the first width for at least a second portion of the grid fields shown in Figures 1, 2, and 3 and it would have been obvious to one of the ordinary skill in the art at the time of the invention to have beams disclosed by **Nakanishi** spaced to define a first and second width of a grid field taught by Gagnon to provide a diverse size of grids to accommodate various sized components.

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The Examiner rejected Claims 8 and 14 under 35 U.S.C. 103(a) as being unpatentable over Nakai in view of Yuichiro, and further in view of Nakanishi U.S. Patent No. 5300737.

Regarding Claim 8, the Examiner stated that Nakai discloses safety brake devices. The Examiner admitted that Nakai is silent concerning the safety brake devices attached to a lower surface of an intermediate one of the crossbars, but stated that Nakanishi teaches safety brake devices 29, 30 are attached to a lower surface of an intermediate one of a crossbar, referred to as lower plate member 14b, through support shaft 25 and it would have been obvious to one of ordinary skill in the art at the time of the invention to attach the brake devices disclosed by Nakai et al. to a lower surface of an intermediate one of a crossbar through support shaft as taught by Nakanishi to facilitate the connection between the counterweight and the brake devices.

Regarding Claim 14, the Examiner admitted that Nakai is silent concerning an uppermost and/or lowermost one of the crossbars has a center horizontal welding plate for fastening support means or weight compensating means, but stated that Nakanishi teaches an uppermost crossbar 14a having a center horizontal welding plate 19 for fastening support means 4a, 4b, 4c and it would have been obvious to one of ordinary skill in the art at the time of the invention to provide a center horizontal welding plate as taught by Nakanishi to an uppermost crossbar for fastening support means disclosed by Nakai to facilitate the connection between the crossbar and the support means.

The Examiner rejected Claims 15 and 18 under 35 U.S.C. 103(a) as being unpatentable over Nakai in view of Yoo.

Regarding Claim 15, the Examiner stated that Nakai discloses an elevator counterweight 3 for use in an elevator installation comprising a counterweight frame 17 including a first plurality of vertical beams spaced over a width of the frame 17 and a second plurality of horizontal crossbars attached to the vertical beams, the beams and the crossbars forming a plurality of grid fields including a lower right-hand grid open at a right side thereof and a lower left-hand grid open at a left side thereof, weight elements 2

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fixed in one of the grids other than the lower right-hand grid and the lower left-hand grid, and a pair of lower guide shoes attached to the frame 17 and adapted to engage the counterweight guide rails 8. The Examiner admitted that Nakai is silent concerning one of the guide shoes being positioned in the lower right-hand grid and another of the guide shoes being positioned in the lower left-hand grid, but stated that Yoo teaches guides shoes 10 being positioned in a lower right-hand grid and another of the guide shoes being positioned in a lower left-hand grid and it would have been obvious to one of ordinary skill in the art at the time of the invention to mount guide rollers disclosed by Nakai et al. in a lower left-hand grid and a lower right-hand grid as taught by Yoo et al. to facilitate airflow around the counterweight.

Regarding Claim 18, the Examiner stated that Nakai discloses the beams and the crossbars are arranged in a common plane.

The Examiner rejected Claim 17 under 35 U.S.C. 103(a) as being unpatentable over Nakai in view of Yoo, and further in view of Nakanishi. The Examiner stated that Nakai discloses safety brake devices are positioned in the lower right-hand grid and said lower left-hand grid. The Examiner admitted that Nakai is silent concerning the safety brake devices attached to a lower surface of an intermediate one of the crossbars, but stated that Nakanishi teaches safety brake devices 29, 30 are positioned in a lower right-hand grid a said lower left-hand grid and are attached to a lower surface of an intermediate one of the crossbars 14b through support shaft 25 and it would have been obvious to one of ordinary skill in the art at the time of the invention to attach the safety brake devices disclosed by Nakai et al. to a lower surface of an intermediate one of the crossbars as taught by Nakanishi to facilitate the connection between the counterweight and the break devices.

The Response:

Applicant appreciates the allowance of Claims 19 and 20.

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The Examiner stated that Claims 7, 12, 13, and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicant amended Claim 15 by incorporating the subject matter of cancelled Claim 16. Therefore, Applicant believes that Claims 15, 17 and 18 are allowable.

The Examiner rejected independent Claim 1 as being unpatentable over Nakai in view of Yuichiro. Nakai shows an elevator counterweight 3 having a counterweight casing 17 with a plurality of weights 2 fixed in the casing. The casing has four vertical beams spaced over a width of casing and two horizontal crossbars attached to the vertical beams to form two grid fields receiving the weights. The Examiner admitted that Nakai is silent concerning the beams and the crossbars forming at least four grid fields adapted to receive the weights.

Yuichiro teaches a counterweight divided by a horizontal partition plate 19 to create a first sub weight 22 above the partition and a second sub weight 20 below the partition. The Examiner suggests dividing the two Nakai grids with the Yuichiro partition plate to create four grid fields. However, that combination of Nakai and Yuichiro would lead to a counterweight as shown by Nakai whereby the two grid fields are divided to two sub weights each, by additional crossbars extending over the width of one grid field. An extension of the additional crossbars over the full width of the Nakai casing 17 is not possible because it would interfere with the drive equipment positioned between the grids.

Claim 1 defines at least three horizontal crossbars attached to the vertical beams, the crossbars extending over the width of the frame, the beams and the crossbars forming at least four grid fields adapted to receive the weight elements. Such a counterweight is neither shown in nor suggested by Nakai and Yuichiro. Thus, Applicant believes that Claims 1-14 are allowable.

The Examiner stated that the prior art made of record and not relied upon is considered pertinent to Applicant's disclosure. The Examiner cited: Nakai et al. U.S. Patent No. 5033587; Nakai et al. U.S. Patent No. 5033588; Nakai et al. U.S. Patent No. 5036955; Nakai et al. U.S. Patent No. 5074384; Wittur et al. U.S. Patent No. 5788017; Ishibashi JP Publication No. 5-162985; and Morioka JP Publication No. 5-201657. Applicant reviewed

these references and found them to be no more pertinent than the prior art relied upon by the Examiner in his rejections.

In view of the amendments to the claims and the above arguments, Applicant believes that the claims of record now define patentable subject matter over the art of record. Accordingly, an early Notice of Allowance is respectfully requested.

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